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BEYER WEAVER & THOMAS LLP P.O. BOX 70250 OAKLAND, CA 94612-0250			PHAM, HUNG Q	
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DATE MAILED: 05/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/771,143

Applicant(s)

CRIM ET AL.

Examiner

HUNG Q. PHAM

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 February 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 and 38-50 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 and 38-50 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Response to Arguments***

Applicant's arguments filed 02/16/2005 have been fully considered but they are not persuasive.

- As argued by applicants at page 8 with respect to a state variable of a database:

*Contrary to the Examiner's assertion (Office Action page 10), it is very respectfully submitted that Bapat et al. does NOT teach a calculation expression, for controlling access to a database, that can be evaluated based on a state variable of a database. As noted in noted, for example, in the summary of the Invention, the expression can be based on fields of the records as well as other information, for example, various state variables of the database (e.g., date, time, number of records, etc.)*

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., in the summary of the Invention, the expression can be based on fields of the records as well as other information, for example, various state variables of the database (e.g., date, time, number of records, etc.)) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Specifically, a state variable as in the specification is defined by using a plurality of example, e.g., *date, time, number of records...*, and these are metadata of a record. Name of a record is metadata. Therefore, name of a record is a state variable as well.

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As disclosed by Bapat, Access control for a particular user on a particular managed object is defined by a permissions table as shown below (Col. 26, lines 10-12).

Granted Permissions Table for Table 1

1502	User Name	Object Name	Operation Type
	user_x	object_xyz	SELECT
	user_x	object_qrs	UPDATE
	user_y	object_xyz	SELECT
	user_y	object_abc	DELETE
	user_z	object_def	SELECT
1510	group_a	object_hij	SELECT
	group_z	object_jkl	SELECT

A permission entry 1502 is tuple having three fields, user name, object name, and operation type. The object name, preferably, is the FDN or Full Distinguish Name for a managed object (Col. 26, Lines 28-33). As seen, each row expression in the Granted Permissions Table is a *calculation expression* with a plurality of implied EQUAL OPERATOR, and is evaluated by the FDN field represents by the name of the record to determine the access right.

- As argued by applicants at page 9:

*As noted by the Examiner, "FDN is a name for a managed object." (Office Action, page 8, citing col. 26, lines 28-33 of Bapat et al.). It is also noted that the "FDN operates as the primary key to data stored in a table (Office Action, page 8, citing col. 19, lines 36-40 of Bapat et al.). However, it is respectfully submitted that FDN is the name assigned to an object, and it is NOT a field of actual data in a record stored in a database.*

Examiner respectfully traverses because FDN is the name assigned to an object, and also a field of data used in a plurality of records stored in database. Applicant is

referred to FIG. 10 that includes TABLE 310, wherein FDN is a field of data used in a plurality of records stored in database.

- As argued by applicants at page 9:

*Contrary to the Examiner's assertion (Office Action, page 5), it is very respectfully submitted that each row in the Granted Permissions Table of Bapat et al. is NOT a mathematical process that is evaluated by the FDN. Bapat et al. merely teaches a Granted Permissions Table that is used to store information, and which can be subsequently searched based on the FDN.*

Examiner respectfully traverses because each row in the Granted Permissions Table explicitly defines an access right of a user to a record in the database with its Fully Distinguished Name is equal to the specified Fully Distinguished Name in the Granted Permissions Table. For example, based on a row of the Granted Permissions Table, a user\_x can delete any record that has Object Name (FDN) = Record (FDN). As seen, each row expression in the Granted Permissions Table is a mathematical process, (Object Name (FDN) = Record (FDN)), evaluated by the FDN field of the record to determine the access right.

- As argued by applicants at page 10:

*Per MPEP §2143.01, in order to make a prima facie case of obviousness, there must a motivation or suggestion in the combination of references. In the Office Action, the Examiner has asserted that it would have been obvious to use a password for a user. However, it is respectfully submitted that this assertion does NOT address the lack of teaching in both Bapat et al. and Elmasri with respect to a motivation or suggestion to define a calculation expression for a password which is associated with one or more users. Moreover, it is respectfully submitted that there is no motivation or suggestion in Bapat et al. or Elmasri for defining a calculation expression for a password*

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988), and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the process of assigning a password and identifying password is a conventional technique, which was used for security purpose, and password is a must for Bapat method and system in order to have a more secure database system.

- The rejection of claims 1 and 37 under 35 U.S.C § 112, first paragraph, and objection of claims 20 and 23 are withdrawn due to the cancelation of these claims.

### ***Claim Objections***

Claim 48 is objected to because of the following informalities: said plurality records in the step of defining a calculation expression. Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

**Claims 48-50 are rejected under 35 U.S.C. 102(e) as being anticipated by Bapat et al. [USP 6,236,996 B1].**

Regarding claim 48, Bapat teaches a method of controlling access to records stored in a database, the method comprising:

*defining a calculation expression for controlling access to said plurality records in said databases, thereby allowing access to said plurality of records to be determined based on said calculation expression* (PERMISSION TABLES as in FIG. 15 are defined by system administrator, Col. 26, Lines 18-19. Each row of the Granted Permissions Table is defined by a meaningful combination of characters or *expression* to specify a record access right for a user, wherein each row in the Granted Permissions explicitly defines an access right of a user to a record in the database with its Fully Distinguished Name as a key is equal to the specified Fully Distinguished Name in the Granted Permissions Table. For example, based on the first row of the Granted Permissions Table, a User Name = user\_x has Operation Type = delete on any record that has Object Name =

object\_xyz. As seen, each row expression in the Granted Permissions Table is a *calculation expression* with a plurality of implied EQUAL OPERATOR, and is evaluated by the FDN field of the record to determine the access right); and

*receiving a request to perform at least one operation on said plurality of records in said database* (Col. 20, Lines 23-31);

*evaluating said calculation expression for each of said plurality of records, wherein said evaluation returns only one of two possible values for each of said plurality of records, one of said possible values indicating that said at least one operation should be granted and another one of said possible values indicating that said at least one operation should be denied* (Col. 27, Line 45-Col. 28, Line 26);

*granting said at least one operation to be performed when said evaluation returns one said possible value to indicate that said at least one operation should be granted* (Col. 28, Lines 1-3);  
and

*denying said at least one operation to be performed when said evaluation returns one said another possible value to indicate that said at least one operation should be denied* (Col. 28, Lines 4-10).

Regarding claim 49, Bapat teaches all of the claimed subject matter as discussed above with respect to claim 48, Bapat further discloses *said calculation expression includes at least one field of data of a plurality of records stored in said database and can be evaluated at least partly based on at least one field of at least one record in said database, thereby allowing selectively controlling access to various fields of data stored in said plurality of records* (Col. 27, Line 45-Col. 28, Line 26 and Col. 20, Lines 22-40).



Regarding claim 50, Bapat teaches all of the claimed subject matter as discussed above with respect to claim 48, Bapat further discloses *said calculation expression can be evaluated at least partly based on at least one state variable of said database* (Col. 26, lines 28-33).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

**Claims 11-15 and 38-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bapat et al. [USP 6,236,996 B1] in view of Elmasri et al. [Fundamentals of Database System].**

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Regarding claims 11 and 38, Bapat teaches a method and program for controlling managed objects. As shown in FIG. 14, tables 310 and 320 as in FIG. 11A are stored in a conventional DBMS 280 (Col. 25, lines 49-50). Rows 311, 312, 321, 322 of the tables 310, 320 contain management information for managed objects (Col. 25, lines 60-61). The FDN operates as the primary key to the data stored in the table and to determine which managed objects that a particular user is permitted to access or modify (Col. 19, lines 36-40). Access control for a particular user on a particular managed object is defined by a permissions table as shown below (Col. 26, lines 10-12).

Granted Permissions Table for Table 1

1502	User Name	Object Name	Operation Type	1
	user_x	object_xyz	SELECT	
	user_x	object_qrs	UPDATE	
	user_y	object_xyz	SELECT	
	user_y	object_abc	DELETE	
	user_z	object_def	SELECT	
1510	group_a	object_hij	SELECT	
	group_z	object_jkl	SELECT	

A permission entry 1502 is tuple having three fields, user name, object name, and operation type. The object name, preferably, is the FDN or Full Distinguish Name for a managed object (Col. 26, Lines 28-33). Referring to FIG. 11A as shown below, each row in the database tables includes a field called the Fully Distinguished Name or FDN of a managed object followed by columns of data. For example, an FDN can look like /systemid="sys1"/owner="accompany"/devicetype="router" (Col. 19, Lines 24-35).

Row			
FDN	Data 1	...	Data N

As seen, each row of the Granted Permissions Table is defined by a meaningful combination of characters or *expression* to specify a record access right for a user, wherein each row in the Granted Permissions explicitly defines an access right of a user to a record in the database with its Fully Distinguished Name as a key is equal to the specified Fully Distinguished Name in the Granted Permissions Table. For example, based on the first row of the Granted Permissions Table, a User Name = user\_x has Operation Type = delete on any record that has Object Name = object\_xyz. As seen, each row expression in the Granted Permissions Table is a *calculation expression* with a plurality of implied EQUAL OPERATOR, and is evaluated by the FDN field of the record to determine the access right. In short, the Bapat technique indicates

*a calculation expression is defined based on FDN as at least one field of data used in a plurality of records stored in said database and*

*can be evaluated at least partly based on said at least one field, thereby allowing access to various field of data stored in said plurality of record to be selectively controlled* (Col. 27, Line 45-Col. 28, Line 26 and Col. 19, Line 55-Col. 20, Line 40) and

*wherein expression defines access privileges of said one or more users with respect to at least one operation that may be requested to be performed by said one or more users on said plurality of records of said database* (FIG. 15 A and B).

When a user 300 issues an SQL command to access the DBMS 280 (Col. 22, lines 24-26, Col. 25, lines 65-67) for the status of all routers in the network or for

information about a specified list of managed objects (Col. 28, lines 27-30) as *receiving a request to perform said at least one operation on said plurality of records of said database, said request being identified as a request made by said one or more users associated with user name.*

Access Control is enforced by *evaluating* user name, object name and operation type as *said calculation expression for said each of said plurality of records, based on said at least one field of data, when said request has been received; said evaluation returning only one of two possible values for each of said plurality of records, one of said possible values indicating that said at least one operation should be granted and another one of said possible values indicating that said at least one operation should be denied; granting said at least one operation to be performed when said evaluation returns one said possible value to indicate that said at least one operation should be granted; and denying said at least one operation to be performed when said evaluation returns one said another possible value to indicate that said at least one operation should be denied* (Col. 27, line 45-Col. 28, line 26).

The missing of Bapat technique is the step *identifying a password that is associated with one or more users of said database.*

Elmasri teaches a method of protecting access to a database system by *identifying a password that is associated with one or more users of said database* (Elmasri, page 718).

Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the Bapat method by using a password to identify a user as taught by Elmasri in order to have a more secure database system.

Regarding claims 12 and 39, and Bapat and Elmasri, in combination, teach all of the claimed subject matter as discussed above with respect to claims 11 and 38, Bapat further discloses *at least one operation can be a browse, an edit, or a delete operation* (FIG. 15A and B).

Regarding claims 13 and 40, Bapat and Elmasri, in combination, teach all of the claimed subject matter as discussed above with respect to claims 11 and 38, Bapat further discloses *calculation expression is not explicitly defined for said at least one operation but said calculation expression is one that has been defined for another operation which has been considered as a related operation to said at least one operation* (FIG. 15A).

Regarding claims 14 and 41, Bapat and Elmasri, in combination, teach all of the claimed subject matter as discussed above with respect to claims 11 and 38, Bapat further discloses *said calculation expression can be evaluated at least partly based on at least one state variable of said database* (Col. 26, lines 28-33).

Regarding claims 15 and 42, Bapat and Elmasri, in combination, teach all of the claimed subject matter as discussed above with respect to claims 14 and 38, Bapat further discloses the step of *granting temporary or limited access to said at least one record to allow said evaluating of said calculation expression* (FIG. 15A).

**Claims 43-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bapat et al. [USP 6,236,996 B1] in view of Glasser et al. USP 6,308,173 B1].**

Regarding claim 43, Bapat teaches a database system comprising:

*a database including a plurality of records stored therein* (Col. 25, Lines 49-50 and 55-59);

*a database program that can access said database and can be used as an interface to said database* (Col. 7, Lines 45-67),

*wherein said database program can be used to: define a calculation expression for controlling access to said plurality records in said databases, thereby allowing access to said plurality of records to be determined based on said calculation expression* (PERMISSION TABLES as in FIG. 15 are defined by system administrator, Col. 26, Lines 18-19. Each row of the Granted Permissions Table is defined by a meaningful combination of characters or *expression* to specify a record access right for a user, wherein each row in the Granted Permissions explicitly defines an access right of a user to a record in the database with its Fully Distinguished Name as a key is equal to the specified Fully Distinguished Name in the Granted Permissions Table. For example, based on the first row of the Granted Permissions Table, a User Name = user\_x has Operation Type = delete on any record that has Object Name = object\_xyz. As seen, each row expression in the Granted Permissions Table is a *calculation expression* with a plurality of implied EQUAL OPERATOR, and is evaluated by the FDN field of the record to determine the access right); and

*wherein said database program is further capable of:*

*receiving a request to perform at least one operation on said plurality of records in said database (Col. 20, Lines 23-31);*

*evaluating said calculation expression for each of said plurality of records, wherein said evaluation returns only one of two possible values for each of said plurality of records, one of said possible values indicating that said at least one operation should be granted and another one of said possible values indicating that said at least one operation should be denied (Col. 27, Line 45-Col. 28, Line 26);*

*granting said at least one operation to be performed when said evaluation returns one said possible value to indicate that said at least one operation should be granted (Col. 28, Lines 1-3); and*

*denying said at least one operation to be performed when said evaluation returns one said another possible value to indicate that said at least one operation should be denied (Col. 28, Lines 4-10).*

Bapat does not explicitly teach *Graphical User Interface* is included to define expression.

However, as disclosed by Bapat, the system administrator 302 creates the permissions tables prior to use of the DBMS 280 by end users. The system administrator 302 invokes a call 440 to the *Create\_Permissions\_Tables* 442 procedure of the DBMS 280 (Bapat, Col. 26, lines 18-27). As seen, in order to create the permission table by the *Create\_Permissions\_Tables* procedure, obviously, a *Graphical User Interface* has to be used to enter the user name, FDN and access control code as discussed above. Glasser teaches a Graphical User Interface for defining access control expression (Glasser, FIG. 6B).

Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to include a Graphical User Interface as taught by Glasser in order to have a friendly system to define access right for a user.

Regarding claim 44, Bapat and Glasser, in combination, teach all of the claimed subject matter as discussed above with respect to claim 43, Bapat further discloses *said calculation expression includes at least one field of data of a plurality of records stored in said database and can be evaluated at least partly based on at least one field of at least one record in said database, thereby allowing selectively controlling access to various fields of data stored in said plurality of records* (Col. 27, Line 45-Col. 28, Line 26 and Col. 20, Lines 22-40).

Regarding claim 45, Bapat and Glasser, in combination, teach all of the claimed subject matter as discussed above with respect to claim 43, Bapat further discloses *at least one operation can be a browse, an edit, or a delete operation* (FIG. 15A and B).

Regarding claim 46, Bapat and Glasser, in combination, teach all of the claimed subject matter as discussed above with respect to claim 43, Bapat further discloses *calculation expression is not explicitly defined for said at least one operation but said calculation expression is one that has been defined for another operation which has been considered as a related operation to said at least one operation* (FIG. 15A).

Regarding claim 47, Bapat and Glasser, in combination, teach all of the claimed subject matter as discussed above with respect to claim 43, Bapat further discloses *said*



*calculation expression can be evaluated at least partly based on at least one state variable of said database (Col. 26, lines 28-33).*

### **Conclusion**

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUNG Q. PHAM whose telephone number is 571-272-4040. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JOHN E. BREENE can be reached on 571-272-4107. The fax phone


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number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
HUNG Q PHAM  
Examiner  
Art Unit 2162

May 13, 2005

  
SHAHID ALAM  
PRIMARY EXAMINER